

REMARKS

Claim 16 is in this application. Applicants add new claim 18 which claims a method for controlling fruit-specific gene expression in a non-climacteric plant. Support for this claim can be found throughout the instant specification.

All previous rejections to claim 16 have been withdrawn. The Examiner sets forth new grounds for rejection in this non-final office action. The claim now stands rejected as obvious under 35 U.S.C. § 103(a) over Houck et al. (U.S. Pat. No. 4,943,674) in view of Graham et al. Applicants respectfully traverse and assert that citation of these new references does nothing to cure the Examiner's failure to make out a prima facie case of obviousness.

The Examiner asserts (and Applicants do not dispute) that Houck teaches the desirability to "be able to control expression at a particular stage in the growth of [a] plant or in a particular plant part", and that a "fruit-specific promoter" provides a means for this kind of gene expression control. It is also undisputed that Houck teaches a method for obtaining such tissue-specific promoters, and in particular promoters that are fruit-specific. However, Houck never mentions and fails to consider the climacteric or non-climacteric nature of ripening of certain fruits. That is, one skilled in this art at the time the invention was made recognized that certain plant species exhibited a climacteric pattern of ripening (see the instant specification, page 1, lines 8-12) which is accompanied by a burst in respiration rate and a large increase in biosynthesis of the plant growth regulator, ethylene. As described in the instant specification, non-climacteric fruits such as balckcurrant do not produce this "respiratory climacteric" and produce only very low levels of ethylene during fruit ripening. Accordingly, one skilled in this art would appreciate the significant differences in biochemistry and hence gene expression during ripening in climacteric versus non-climacteric fruit. It follows then that the control of gene expression in non-climacteric fruits is regulated differently than gene expression in climacteric fruit, and that promoters that function and are regulated in climacteric fruits are not necessarily regulated in the same way and by the same biochemical signals and transcription factors that regulate gene expression in non-climacteric fruit. Houck is silent on these

considerations: the word "climacteric" is absent from the Houck specification and claims as is any discussion of differential patterns of fruit ripening. Accordingly, Houck could not have suggested to one skilled in this art that a promoter that drives fruit ripening in non-climacteric fruit could be obtained from blackcurrant.

The addition of the Graham reference adds nothing to this analysis. Graham merely teaches a method for making transgenic blackcurrant. Graham does not teach that blackcurrant is a non-climacteric fruit and therefore the source of a promoter or promoters that can drive fruit-specific gene expression in blackcurrants.

In summary, the combination of the Houck and Graham references do not help one skilled in this art to choose amongst the many plant species for a source of a promoter to drive fruit-specific gene expression in non-climacteric fruit. Although Houck teaches a means to obtain fruit-specific promoters, and Graham teaches that blackcurrant can be genetically modified, neither reveal to the skilled artisan that fruit specific promoters can be obtained from blackcurrent which can be used to drive fruit-specific gene expression in non-climacteric fruit. As was stated in the response to the prior Office Action, before the instant invention was made, one skilled in the art did not know that blackcurrant was a non-climacteric fruit. Therefore, one skilled in the art could not have known (and neither Houck nor Graham suggest) that a promoter capable of driving fruit-specific gene expression in non-climacteric fruit could be obtained from blackcurrant. Accordingly, there was no motivation in the prior art to practice the instantly claimed invention (i.e., to isolate a promoter from blackcurrent in order to drive fruit-specific gene expression in non-climacteric fruit).

Finally, with reference to new Claim 18, there was no motivation in the art at the time the instant invention was made to attempt to control fruit-specific gene expression in a non-climacteric plant using a promoter isolated from blackcurrent because one skilled in this art did not appreciate that blackcurrent could be the source of promoters able to control gene expression in such plants.

Accordingly, Applicants respectfully assert that Claim 18 is novel and not obvious over the cited prior art.

Respectfully submitted,



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